Patent Claims

1. Device (1) for palletizing objects, in particular empty plastic bottles (2) having a neck collar (1), comprising a transposing device (4) for forming layers (5) of the objects that are fed in rows, a pallet loader (7) transferring the layers to pallets (6), a conveyor (7, 8) situated between the transposing device (4) and the pallet loader for layers formed by the transposing device and a buffer (9) for intermediate storage of at least one layer, characterized in that the transposing device (4) optionally loads the conveyor zone (8) or the buffer (9) with objects (2) and the pallet loader (7) receives the layers of objects (2) from either the conveyor zone (8) or the buffer (9).

2. Device according to Claim 1, characterized in that the buffer (9) is arranged at least partially beside the conveyor zone (8).

3. Device according to Claim 1, characterized in that the buffer (9) is arranged at least partially beneath the conveyor zone (8).

4. Device according to any one of Claims 1 through 3, characterized in that the buffer (9) has a reversible carriage (10) for receiving at least one layer (5) of objects (2).

5. Device according to any one of Claims 1 through 3, characterized in that the buffer (9) has at least one endless conveyor chain for receiving at least one layer (5) of objects (2).

6. Device according to any one of Claims 1 through 3, characterized in that the buffer (9) has at least one container that can be handled separately for a layer (5) of objects (2).

7. Device according to any one of Claims 1 through 6, characterized in that the buffer (9) is provided with supports (11) for the objects (2).

8. Device according to Claim 7, characterized in that the supports (11) are adjustable for adaptation to different object diameters.

9. Device according to any one of Claims 1 through 8, characterized in that the conveyor zone (8) has a sliding table (12) for a layer (5) of objects (2), said table being movable between the normal parking station of the transposing device (4) and the normal receiving station of the pallet loader (7).

10. Device according to Claim 9, characterized in that the buffer (9) is arranged beneath the sliding table (12) and passes by an additional parking

station of the transposing device (4) as well as an additional receiving station of the pallet loader (7).

11. Device according to Claim 10, characterized in that the transposing device (4) and the pallet loader (7) optionally execute an additional stroke during which they set down the objects on the buffer (9) and/or pick them up from the buffer (9).

12. Device according to any one of Claims 1 through 11, characterized in that a distributor (13) connected upstream from the transposing device (4) continuously shapes several rows (26 through 31) of objects (2) from an incoming row of objects (2).

13. Device (1) for palletizing objects, especially empty plastic bottles (2) having a neck collar (3), comprising a transposing device (4) for forming layers (5) of the objects supplied in rows, a pallet loader (7) transferring the layers to pallets (6) and a conveyor zone (8) arranged between the transposing device (4) and the pallet loader for the layers formed by the transposing device, characterized in that a distributor (13) which is provided upstream from the transposing device (4) continuously forms several outgoing rows (26 through 31) of objects (2) from an incoming row of objects (2).

14. Device according to Claim 12 or 13, characterized in that the distributor (13) has a continuously revolving conveyor chain (18) for a single-row feed of objects (2), a plurality of clamping star wheels (20 through 25) revolving in synchronization being connected directly or indirectly downstream from the conveyor chain, removing the objects (2) individually from the conveyor chain (18) and distributing them among multiple paths (26 through 31).

15. Device according to Claim 12 or 13, characterized in that the distributor (13') has multiple continuously revolving conveyor chains (18, 18') for a single row supply of objects (2), several clamping star wheels (40 through 47) being connected directly or indirectly downstream from each, individually removing the objects (2) from the conveyor chains (18, 18') and distributing them among multiple paths (L1 through L8).

16. Device according to Claim 15, characterized in that the conveyor chains (18, 18') form a tangent to the discharge star wheel (17) of a blow molding machine (S) and are loaded alternately with objects (2) by the controllable gripper arms (G) of the discharge star wheel.

17. Device according to any one of Claims 14 through 16, characterized in that the conveyor chain(s) (18, 18') is (are) equipped with individually controllable gripper tongs (19') for targeted gripping and release of one object (2) at a time.

18. Device according to any one of Claims 14 through 17, characterized in that the conveyor chain(s) (18, 18') has (have) a curved path in the transfer area to the clamping star wheels (40 through 47).

19. Device according to any one of Claims 14 through 18, characterized in that at least one clamping star wheel (48 through 51) that can be driven in synchronization is provided for at least one conveyor chain (18, 18') and/or at least one clamping star wheel (43, 47) for input of objects (2) from a storage device (59) or the like into the conveyor chain (18, 18') and/or into the clamping star wheels.

20. Device according to any one of Claims 15 through 19, characterized in that a transfer device (50, 52) for transferring objects (2) between the conveyor chains (18, 18') and/or the clamping star wheels assigned to them.